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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,273	01/18/2002	Frederick M. Mako	MAKO-9 CONT II	2218

7590 08/28/2003

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EXAMINER

SPITZER, ROBERT H

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,273

Applicant(s)

MAKO ET AL.

Examiner

Robert H. Spitzer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-15 are again rejected under 35 U.S.C. 103(a) as being unpatentable over German reference No. 4014153 in view of Nixdorf (5,087,272) and EPO reference No. 327,439. German reference No. 4014153 shows a filter system for an engine, which has at least two microwave sources, a microwave cavity containing a particulate filter in communication with the microwave sources through appropriate wave guides to receive the microwaves and to be heated thereby, to remove the soot filtered from the exhaust gases from the engine. The microwave sources are described to be "adjacent to the at least one exhaust gas filter body" (emphasis added). While "adjacent" is an adjective which means lying near, close or contiguous, adjoining, or neighboring, the definition does not specifically include "at the ends". Thus, the claims differ from the structure and process of German reference No. 4014153 in the microwave sources being positioned with respect to the particulate filter so that the filter will "receive microwaves at the two ends for the particulate filter to be uniformly heated by the microwaves from each of the two ends from the microwave sources" and in the particulate filter being "coated with a microwave absorbing material". Nixdorf (5,087,272) shows a filter for the removal of particulates from the exhaust gases of an engine, which is a wall-flow filter fabricated from aluminum oxide coated with a layer of silicon carbide in order to enhance the microwave heating and states that this filter "is heated uniformly with microwave energy" (emphasis added). EPO reference No. 327,439 shows an exhaust gas filtration system

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for a diesel engine which has a filter within a microwave cavity wherein the microwave source is coupled at the two ends of the filter through appropriate waveguides. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to structure the particulate filter of German reference No. 4014153 of a material which is coated with a microwave absorbing material, in view of the showing of Nixdorf (5,087,272), and that the placement of the microwave sources at the ends of the filter element will result in the uniform heating of the filter material, in view of the showing of such microwave source placement by EPO reference No. 327,439. The "uniform" heating is achieved because of the use of the microwave absorbing material.

3. Applicant's arguments filed August 4, 2003 have been fully considered but they are not persuasive. With respect to German reference No. 4014153, Applicants present several arguments in their Response of August 4, 2003, which includes that "Applicants' claimed system feeds microwave into the region between the filter and perforated end-plates to achieve effective uniform heating from both ends". However, a look at Applicants' claims will show that there is no such "claimed system". Specifically, there are no "perforated end-plates" to form a "region between the filter and perforated end-plates" so that "uniform heating from both ends" is achieved. Thus, that is not a difference between the "claimed system" and that of German reference No. 4014153. Further, the use of tuners, isolators, circulators and isolation means, broadly, has been previously explained as being necessary for the operation of any microwave system and would accordingly also be present in the systems of all three of the above applied references. With respect to the Nixdorf (5,087,272) reference, Applicants' state that

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"silicon carbide coating is only a NECESSARY condition for microwave absorption, but NOT SUFFICIENT unless the microwave feed system is configured properly" and that "Uniform heating was stated without substantiation in the patent". Applicants' are well aware that the reference to Nixdorf (5,087,272) is considered valid for all that it teaches and a mere statement by Applicants' otherwise is not sufficient to overcome this showing. Thus, if Applicants' believe that the Nixdorf (5,087,272) reference does not show "uniform heating" of the filter material, then they must prove, by a sufficient showing of evidence, that there is not "uniform heating" of such filter material. At present, the instant application does not contain such "evidence". As to EPO reference No. 327,439, the above rejection states that while the Examiner is of the opinion that the "adjacent" placement of the microwave sources in the Fig. 2 embodiment of German reference No. 4014153 meets the limitation that the particulate filter is "positioned in relation to the microwave sources to receive microwaves at the two ends for the particulate filter to be uniformly heated by the microwaves from each of the two ends from the microwave sources", he has added EPO reference No. 327,439, which clearly shows the location of the waveguides from microwave generator 5 at the two ends of the filter. Thus, EPO reference No. 327,439 is being used for the sole purpose of showing that placement of the microwaves sources "adjacent" the ends of the filter would include placement so that such filter receives the microwaves from the ends thereof. The lack of a coating material for the filter material does not change that showing. Accordingly, the combination of the above clearly defined references is considered to meet all of the limitations of the instant claims, for the specific reasons detailed above. Any other

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remarks made by Applicants in their response, which have not been specifically commented on by the Examiner, have been considered.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H. Spitzer whose telephone number is (703) 308-3794. The examiner can normally be reached on Monday-Thursday from 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver, can be reached on (703) 308-1261. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

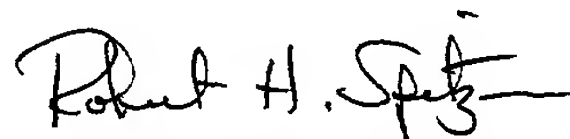
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Robert H. Spitzer
August 27, 2003



Robert H. Spitzer
Primary Examiner
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